



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

David Roberts MCMURTRY et al.

Group Art Unit: 3662

Application No.: 10/518,918

Examiner: T. BRAINARD

Filed: December 29, 2005

Docket No.: 122070

For: LASER CALIBRATION APPARATUS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- 1. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, Notice of Allowance or other action that closes prosecution (e.g., Quayle Action).
- a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- 2. One or more reference cited herein was cited in a counterpart foreign application. An English language version of the foreign Office Action is attached for the Examiner's information. See References 1-3.
- 3. A concise explanation of the translated Office Action and the relevance of one or more non-English language reference cited herein appears in the Appendix attached. See References 1 & 2.
- 4. An English language Abstract of one or more non-English language reference is attached. See References 2 & 3.

- 5. A computer-generated English language translation of one or more Japanese Patent Publication cited herein has been obtained from the website of the Japanese Patent Office ([<http://www.jpo.go.jp>]), and is attached, but has not been reviewed for accuracy. See Reference 2.
- 6. U.S. Patent No. 4,939,678 corresponds to reference 1 which was previously cited in an Information Disclosure Statement submitted to the Patent Office on December 23, 2004.

Respectfully submitted,



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<b>DEPOSIT ACCOUNT USE AUTHORIZATION</b> Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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## APPENDIX

### Our comments:

As you will see from an English translation of the Official Notice of Rejection enclosed herewith, the Examiner deems that claims 1-5, 9, 10, 12, 18-21 are not novel over the teachings of one cited Prior Art document D1: JP 3-501052 (corresponding to US 4939678) (Reason 1); with this Reason claims 2-25 do not meet the requirement of unity of invention, claims 6, 7, 11, 13-17, 22-25 are accordingly not examined in the substantive matter such as novelty and inventive step (Reason 2); claims 1, 7, 8 are unclear (Reason 3); and claim 8 lacks an inventive step (Reason 4).

We have reviewed the Official Notice of Rejection along with the cited document, and feel that D1 discloses an apparatus and method similar to those in this application as the Examiner has pointed out.

### **Reasons 1, 2, 4**

It is our opinion that the pending claim 1 is so broad that it includes the apparatus in D1. Amendment of claims might be inevitable. With respect to Reason 1, the most distinctive feature over D1 appears the arrangement of the third retroreflector 66 (claim 7). As shown in Fig. 2, the third retroreflector 66 faces a different direction from the retroreflectors 62, 64 by 90 degree, and receives/reflects the light beam 48 from/to the mirror 54. This design would decrease the length in the X-direction of the optic unit 12, and appears providing the advantage described in page 10, lines 12-17 in the English text.

We could offer an amendment of claims, for example, to replace claim 1 with another independent claim 18, and add the feature as discussed above. Once claim 1 exhibits new inventive feature over D1, Reasons 2 and 4 are believed to be overcome. It is our understandings that the embodiment includes four detectors 42A, 42B, 42C (Fig. 2), 40 (Fig. 4), four light beams 44, 46, 48 (Fig. 2), 32 (Fig. 4), and four retroreflectors 62, 64, 66 (Fig. 2), 36 (Fig. 4). Therefore, claim 18 looks better to be amended as such.

### **Reason 3**

In claim 7, "the third retroreflector is positioned conceptually behind one of the first and second retroreflectors" appears to be interpreted as "the third retroreflector is positioned such that the length of the light beam from the light source to the third retroreflector is longer than that from the light source to one of the first and second retroreflectors."

In claim 7, the term "conceptually" is better to be deleted.

In claim 8, the term "pixelated image sensors" may be amended to "sensors comprising two-dimensional arrays of pixels."

In addition, in claim 1, the phrase "the optical arrangements for launch and detection of each light beam are substantially the same" is unclear, as the Examiner has pointed out. We believe better to delete this phrase. The objection against the term "launch of light beam" relates to translation issue. We could handle it directly without your instruction if you wish to keep this term in the claims.

**Additional information**

JP 7-332957 cited as Prior Art Literature discloses that the laser beam source 1 is separated from the apparatus 14 by using optical fibre 4 (see Fig. 1). Therefore, claim 15 appears not exhibiting novelty and inventive step.

If you have any question or need further information, please feel free to contact us.

Hiroyuki HASHIRAYAMA